

## THE PRONOMINAL INFLECTION OF THE BILOXI VERB

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1. Introduction. Since publication of the only readily available data on Biloxi (Dorsey 1893, Dorsey and Swanton 1912, Haas 1968), only Einaudi 1976 has attempted a general description of Biloxi morphology. Einaudi based her analysis primarily on Dorsey and Swanton, regularizing their transcription to fit the phoneme inventory described by Haas. Einaudi also regularized the morphological alternations of the pronominal affixes in ways which left out the most interesting stuff. Another look at these affixes, and their interactions with verbal stems is therefore in order.

Biloxi has pronominal prefixes which concord with the persons of the subject, direct object, and indirect object. The third person is always unmarked except in some reflexive paradigms. Plurality is marked by enclitics, *-tu* in the case of subjects, *-daha* in the case of objects. In combination, *-tudaha* and *-dahatu* are both found. Plurality is sometimes marked by stem suppletion. No examples of an indirect object occurring with a non-third person, and therefore marked, direct object have been found. When both direct and indirect object are present in the context, *-daha* marks plurality of the indirect object only. This suggests that if an indirect object is present, the direct object is not marked in the verb.

The potential prefixes and prefix combinations and their symbols are therefore the following: 3, 2, 1 for third, second, and first person subject, with no object or with third person object, direct or indirect; 3/2 for third person subject with second person object, direct or indirect; 1/2 for first person subject with second person object, direct or indirect; 3/1 for third person subject with first person object, direct or indirect; 2/1 for second person subject with first person object, direct or indirect. On the same pattern, '1/2' covers second person objects, direct and indirect, regardless of the person of the subject, while '3/' covers third person subjects with either second or first person object, and so forth.

Einaudi's description of the corresponding prefixes (1976:42-51, 70-73) is summarized in Table 1 on the following page. The category '3/2' has been omitted because Einaudi considers it identical with '2' (1976:73). The category 1/3 is added to account for Einaudi's claim that *ax-* occurs only in transitive contexts.

Table 1. Einaudi Prefixes

Environment	2	1	1/3	1/2	3/1	2/1
Morphophonemic	ay-	nk-	nk-0-	nk-ay-	0-ya <sup>nk</sup> -	ay-nk-
___k, x, (opt.)	(a)ya-					
___k		x-	ax/x-		ya <sup>nx</sup> -	ya <sup>nx</sup> -
___n, (m, p)		o <sup>n</sup> -			ya <sup>n</sup> -	ya <sup>n</sup> -
___C	i-	n-	n-	i <sup>n</sup> -	yan-	yan-
___V	ay/y/iy-	nk-	nk-	ny-	ya <sup>nk</sup> -	ya <sup>nk</sup> -

In his review of Einaudi, Matthews (1978) criticizes her analysis, *inter alia*, for the assumptions that (1) Biloxi transitive verbs, like those of other Siouan languages, contain prefixes for both subject and object, (2) that the subject prefix precedes the object prefix, contrary to the two orderings found in other Siouan languages (0-S-Vb or 3rd-1st-2nd-Vb), and (3) that there are distinct subject and object forms of the prefixes. Matthew's own analysis is the contrary on each point:

"It is in this one respect that Biloxi differs from the more familiar Siouan languages. The Biloxi verb, transitive or intransitive, contains at most a single person prefix, and the same prefixes mark possession in the noun. If 1st person acts on 2nd person, the prefix is (i<sup>n</sup>). Elsewhere, if there is a 1st person subject or possessor, the prefix is (nk); or if there is a 1st person object, it is (ya<sup>nk</sup>). Otherwise, if there is a 2nd person subject, object, or possessor, the prefix is (ay). In the remaining cases, there is no prefix."

Regarding Einaudi's morphophonemic formulae, it is not clear that she intended them as underlying phonological representations rather than merely symbols for the referential content of portmanteau morphemes; she includes a zero morph for the unmarked third person, and her allomorphs are not derivable from the formulae by a set of phonological rules of general application. Aside from these formulae and Matthew's correct merger of Einaudi's 1 and 1/3 categories, Matthews' analysis is derivable from Einaudi's, and vice versa.

On major points, both Einaudi and Matthews had it dead wrong. In fact, ironically, Biloxi does have distinct morphemes for subject and object and the subject prefix does precede the object prefix. Moreover, the 3/2 forms are distinct from the 2 forms. Finally, the morphological situa-

tion is substantially more complex than either analysis suggests, in ways that are of interest for comparative grammarians.

A reanalysis is in order. The analysis presented here is based on a corpus consisting of all but a few of the one word affirmative verb paradigms contained in the dictionary portion of Dorsey and Swanton. All page and line references refer to that work unless noted otherwise. I have generally included only forms which appear to be elicitation forms by virtue of there being no reference to a text or sentence from which they may have been extracted. Although this analysis must be considered tentative until it is expanded to include the entire corpus, an informal perusal of the texts and sentences included in Dorsey and Swanton has revealed little that would modify the results given here.

Certain paradigms have been omitted for lack of space, but should be mentioned briefly. There are paradigms of both simple and compound verbs which contain a demonstrative prefix *kk-* (sometimes *k-*) perhaps not found elsewhere in Siouan. This has the peculiarity, shared with the negative prefix of the same form, that derivatives of the 1-form prefix *ũkk-* precede it, while the 1-form prefix *ax-* and the 2-form prefixes follow it. Also excluded are the reflexive (*ixki-* or *i<sup>h</sup>xki-*) and reciprocal (*kiki-*) paradigms of both simple and compound verbs. I have omitted simple verb paradigms which with minor variations follow the pattern of the dative prefix set, including vertitives (verbs of return) and a very few others. Finally, I have omitted paradigms in which objective prefixes in fact mark the subject.

2. Transcription. A final analysis of Biloxi phonology will require "resurrecting" the language (Siebert 1975); that is, arriving at final phonological representations by simultaneous internal reconstruction or derivation from Proto-Siouan and interpretation of Dorsey's transcriptions in the light of his practices with languages otherwise known to us. It will doubtless require recourse to Dorsey's original field notes to eliminate errors made by Swanton and his typesetter, and may require sorting out the material provided by each of Dorsey's informants. As an example of the type of error which Swanton or his typesetter introduced, compare the sentences in Dorsey and Swanton at page 50, lines 10-13, with the same material in the dictionary portion at page 232 under the index *napi*.

Rankin (1986:78-79, 1988) has shown the dangers inherent in a premature regularization of the Dorsey and Swanton transcription. The material presented here accordingly pre-

serves the transcription, substituting geminate symbols (pp, tt, kk) for consonants with subscript dot, the "medials". These last are unaspirated voiceless stops, inconsistently distinguished from the aspirated series by Dorsey (Rankin 1988). Accent will be shown in the paradigms, but not in the citation of stems in text.

3. Prefixes of the simple verb. In the simple verb, the pronominal prefixes generally precede all other prefixes. The only exception appears to be a-, possibly from PS \*wa- 'indefinite object', which, like demonstrative and negative kk-, precedes all but the 1-form prefix ũñkk-, at least in some paradigms. The prefixes of the simple verb appear in Table 2.

Table 2: Prefixes of the Simple Verb			
Person	General	Dative	Errant Forms
3	Zero	Zero	
2	i-/ay-	ya-	yi-, ya-, hi-
1	ũñkk-	ax-	
3/2	yi-	i-	
1/2	in-yi-	iñ-	
3/1	yañkk-	ya <sup>n</sup> x-	
2/1	hi-yañkk-	hi-ya <sup>n</sup> x-	

Only one effect of the prefixes on the form of the stem is prominent. Stem initial h is lost after all prefixes except 2-form ay-, and the stem is then in effect treated as a vowel initial stem, in so far as it conditions allomorphs of the prefixes. For the treatment of ay-, see Section 4.

4. Simple verbs, general series. The general 2-form has i- before consonants (162 stems) and ay- before vowels other than u (70 stems). Before u it is reduced to y- in 23 of 25 stems, but remains ay- in the other two. Before other vowels it appears reduced to y- in eight stems. This prefix is infixed after stem initial h, resulting in initial hay-, written so in fifteen stems, written ay- in nine. The simple verbs haně 'to find', ho<sup>n</sup>ni 'to make, do, use' and hedi 'to say it, that' have the following paradigms:

3	ha'ně	(h)o <sup>n</sup> 'ni	hedi', hě'di
2	haya'ně	(h)ayo <sup>n</sup> 'ni	ha'yedi'
1	nkka'ně	nkko <sup>n</sup> 'ni	nk ked i'
1/2	inya'ně		i <sup>n</sup> yě'di

The general 1-form is *ũkk-*. There are several variants, which appear to be derived by phonological rules. The conditions of these rules, if any, are not apparent, however. With loss of the initial vowel, the form is *ñkk-*, spelled so in the texts, but almost always spelled *nk-* in the paradigms in the dictionary. Loss of the vowel is probably optional, but may be prohibited by accentuation of the u and by certain following sounds. When the *kk* of the prefix occurs before obstruents other than *d* (< \*r) there is either (a) no change, (b) a vowel inserted between prefix and root, or (c) reduction of the resulting cluster by loss of *kk* of the prefix (or initial *k* of the stem -- the evidence is contradictory). In any of these cases, the vowel of the prefix may also be lost. The frequency of the resulting forms with the various initials appears in Table 3, in which T and K represent both aspirates and medials.

Table 3: 1-Form with Obstruents

	d	p	T	tc	K	s	x	TOTALS
ũkk-		5	3	2		7	1	18
ñkk-			1				2	3
ũkk-V-	1	11	3	1	8			24
ñkk-V-		3			1		3	7
ũn-		2						2
ũñ-					2			2
n-	69	2	4	2	3	1		81
m-		1						1
TOTALS	70	24	11	5	14	8	6	138

Note that with *d*, all cases show *n-* but one. This is *dixyi* 'to urinate', in which *d* represents Proto-Siouan "funny" \*r, a sound with some obstruent qualities (Robert L. Rankin, personal communication). Most instances of stem initial *d* represent one of the instrumental prefixes *dī-* 'by rubbing or pressing between the hands', *du-* 'with the hand',

da- 'with the teeth, by biting', or dũkũ- 'by hitting or punching', with d from PS ordinary \*r.

The intercalated vowel, -V-, is written ɔa- (18 stems), -û- (8 stems), -u- (5 stems), -i- (1 stem), -ũ- (1 stem) and -a- (1 stem). The quality of the vowel is not obviously predictable. It is sometimes stressed. One verb is represented by a complete paradigm, and this shows intercalated -u- after all prefixes but the errant 2-form ya-: kũ'tiki 'to tell what one has perceived himself (not what he has been told, haka<sup>hi</sup>)', 2 ya'kũtiki', 1 û'ñkkukũ'tiki, 1/2 inyu'kũtiki' or nyuku'tiki', 3/1 and 2/1 ya'ñkkukũtiki'. The only other paradigm with a marked object form lacks the intercalated vowel in that form: patcĩdu' 'to brush, as the hair; to wipe the hands, face, feet, plates, etc.', 2 i'patcĩdu, 1 û'ñkkapatcĩdu', 1/2 i<sup>n</sup>'patcĩdu'.

Stems with nonobstruent initials behave in various ways. Stem initial h is lost after this prefix, these stems then falling into the vowel class, the prefix of preference being ñkk-. Some stems with initial y and w insert a vowel after the prefix, i in the case of y, u in the case of w. One verb in the corpus, yakudi 'to feed another', deletes y after kk. Sometimes before y, and always before m and n, the kk of the prefix is lost. The actually occurring prefixes appear in Table 4.

Table 4: 1-Form with Nonobstruents

	V	h	y	w	n	m	TOTALS
ûñkk-	5		1				6
ñkk-	105	21	8	1			135
ñkk-i-			5				5
ûñkk-u-				1			1
ñkk-u-				1			1
ûn-					1	1	2
ûn-					13		13
n-			4			1	5
TOTALS	110	21	18	3	14	2	168

The 3/2-form yi- appears before consonants (5 stems). It appears as iy- (5 stems) or y- (1 stem) before vowels. It also appears before a consonant in one stem as i-.

The 1/2-form *inyi-* does not appear in the restricted corpus, but does appear elsewhere. Loss of the initial vowel gives *nyi-*, the most common form occurring before consonants. This is the probable source of *ny-*, the most common form before vowels and h. Other forms found before vowels or h show preservation of the initial i. There is a scattering of other forms, some with initial h. Occurrences are set out in Table 5.

Table 5: 1/2-Form							
	C	V, h	p	y	d	k	TOTALS
inyi-							0
nyi-	6						6
ny-		13					13
iny-		2					2
iñy-		1					1
i <sup>ny</sup> -		5					5
hi <sup>ny</sup> -		1					1
in-			1	1			2
in-					1		1
iñ-						2	2
hiñ-				3			3
TOTALS	6	22	1	4	1	2	36

The general 3/1-form *yañkk-* is apparently subject to the same morphophonemic processes as *ñkk-*. The 2/1-form adds *hi-* to the corresponding 3/1 form. While this is optional, the 3/1-form never has *hi-*. It may be that *hi-* occurs only when the subject is not expressed by an independent pronoun. The actually occurring combinations of forms are tabulated in Table 6, which appears on the following page.

5. Simple verbs with errant 2-forms. The errant 2-forms are *yi-* before consonants (8 stems), *iy-* before vowels (2 stems), *ya-* before consonants (3 stems), and *hi-* before consonants (5 stems) and vowels (1 stem). The form *i-* occurs once before a vowel, possibly for *iy-*. It is possible that *iy-* before vowels is *i-* with a following glide; the dative prefix *ki-* is sometimes *kiiy-* before vowels, for example.

These are not in free variation with the general prefixes *i-/ay-*, but characteristic of certain verbs with otherwise regular paradigms. They fall into several classes.

Table 6: 3/1- and 2/1-Forms

3/1	2/1	V, h	y	d	n	TOTALS
yañkk-		5				5
yañkk-	yañkk-	9	1			10
yañkk-	hiyañkk-	5				5
yan-				4		4
yan-	hiyan-			1		1
ya <sup>n</sup> -	ya <sup>n</sup> -		2	1	1	4
ya <sup>n</sup> -	iya <sup>n</sup> -			1		1
TOTALS		19	3	7	1	30

The first contains certain verbs of motion or posture, or verbs derived from such: ni hinedi (sg.), ni hamaki (paucal), and ni hiyukked (plural) 'is/are walking', all with yi-; yukkē or yukked 'to be moving about', with ya-, when used as an auxiliary of continuous action; xaxa hamaki 'to be standing', with yi-; and attowē 'to lodge in it', with iy-.

The second contains adjectives and verbs of involuntary action: pi 'good', kūpini 'not good, bad; to be bad', and pai 'to inhale an odor, to smell it', all with hi-; amihi 'to be warm' with yi- (2 ayimi'hi); psūki 'to belch, hic-cough' with ya-. Kūpini 'bad' is the negative of pi 'good', but it is not inflected as a negative stem. There are several such stems in Biloxi, formally negative, but not inflected as such.

The third contains miscellaneous verbs: upanahū 'to knock down a hanging object, or a stick set up ...', tamino<sup>ni</sup> 'to dress himself or herself', and naxtē 'to kick', all with hi-; ixō<sup>n</sup> 'to have enough' with iy-; kūtiki 'to tell what one has perceived himself (not what has been told him)' and popodē 'to wrap up a bundle' with ya-; and dasē 'to bite, as a person or animal does; to hold between the teeth or lips' with yi-.

6. Simple verbs in the dative. The dative prefix precedes locative, instrumental, and manner prefixes, but follows indefinite a-. It is generally written ki- or kī- before consonants, kiy- or ky- before vowels. The form of this prefix



does not appear to condition the form of the personal prefixes, all of which precede it.

The unmarked object forms are generally as set out in Table 2. The 3-form is everywhere zero, appearing with 41 stems. The 2-form appears in 40 stems, always as *ya-*. The 1-form appears in 37 stems as the expected *ax-*, and in five as *x-*.

The 3/2-form occurs with seven stems in the expected form *i-*. The 1/2-form occurs with fourteen stems in the expected form *iñ-*, with one as *hiñ-*, with one as *iñ-*, and with two as *nyi-*, the general form.

The 3/1-form is *ya<sup>n</sup>x-*, *yax-*, or *yañ-*, with no obvious semantic or phonological factor determining the choice. The 2/1-form may or may not add *hi-*. The actual combinations, and number of stems using them, appear in Table 7.

Table 7: Dative /1-Forms		
3/1	2/1	Stems
		-----
<i>ya<sup>n</sup>x-</i>		3
<i>ya<sup>n</sup>x-</i>	<i>ya<sup>n</sup>x-</i>	7
<i>ya<sup>n</sup>x-</i>	<i>hiya<sup>n</sup>x-</i>	6
<i>yax-</i>	<i>yax-</i>	3
<i>yax-</i>	<i>hiyax-</i>	2
<i>yañ-</i>	<i>yañ-</i>	3
		-----
TOTAL		24

7. Simple verbs with glottalized initials. Three verb roots found throughout Siouan began in Proto-Siouan with glottalized k. Their Biloxi reflexes are *kidi* 'to carry on the back', *kudi* 'to give', and *kedi* 'to dig, scrape'. These three verbs have the peculiarity that they take the dative series prefix *x-* rather than the general series prefix *iñkk-*. The 2-form, on the other hand, is *ya-* with *kidi*, but errant *yi-* or general *i-* with *kudi*, and general *i-* with *kedi*. For object forms, *kudi* has 3/2 *i-* and *iyi-* each once, and 1/2 dative *iñ-* and general *nyi-* each once.

There was a fourth root with glottalized initial, PS \**tqe* 'to die', Biloxi *tedi*. As a simple verb, this has gone

over to the general class. It does appear in one compound verb, however, 'to be or feel cold (said of persons and animals)', in which the 1-form prefix appears to be from the dative set, at least in the singular. In addition, the subject prefixes are 3/-forms rather than 2- and 1-forms. The paradigm is as follows, singular on the left, plural on the right:

3	snix-te'di	snix-tě'tu
2	sni'hi-yi-te'di	sni'hi-yi-te'xtu
1	sni'hi-ya <sup>n</sup> -te'di	sni'hi-ya <sup>n</sup> -tě'xtu

8. Compound verbs. Compound verbs consist of a verb stem, adjective stem, noun stem, or onomatopoetic root and a suffix auxiliary. A number of such verbs inflect as simple verbs, and so have been included in the analysis of the simple verb. Most inflect the auxiliary; that is, the prefix is affixed to the auxiliary, or infixes between the two parts of the compound. Two of the auxiliaries are themselves compound, both having the form -ho<sup>n</sup>yě; here the pronominals are prefixed to -yě. The auxiliary verbs shown in the corpus, and the number of compounds formed with each and inflected as such, are as follows:

-yě	general causative (male speaking) (86)
-yaxa <sup>n</sup>	general causative (female speaking) (2)
-ho <sup>n</sup> ni	general causative (from ho <sup>n</sup> ni 'to make, to do, to use') (6)
-ho <sup>n</sup> yě <sub>1</sub>	causative of -ho <sup>n</sup> ni (3)
-hedi	or -hědi 'to make the sound of' (from hedi 'to say it, that') (20)
-edi	general causative; of limited use; may be the same as -hedi (6)
-ho <sup>n</sup> yě <sub>2</sub>	'to make a sound' (from ho <sup>n</sup> yě 'to cry out or give forth a sound') (4)
-a <sup>n</sup>	only in puhe-kika <sup>n</sup> 'to blow a horn for someone to come', which may be -kik-a <sup>n</sup> (a <sup>n</sup> 'to wail') or -ki-ka <sup>n</sup> (-ka <sup>n</sup> , causative, female speech), with dative prefix

9. Compound verb prefixes. Inflection does not significantly vary with the auxiliary. The only complete paradigm is that of *-yě*, which can serve as a model for all, shown in Table 8.

Table 8: Pronominal Prefixes of the Compound Verb		
	General Stems	Dative Stems
3	-yě	-kiyě
2	-hay-ě	-ya-kiyě, -ha-kiyě
1	-hũnkk-ě, -hañkk-, -hiñkk-, -heñkk-	-hax-kiyě
3/2	-hiy-ě	-yi-kiyě
1/2	-hiny-ě	-hiñ-kiyě
3/1	-yañkk-ě	-ya <sup>n</sup> x-kiyě
2/1	-hiyañkk-ě	-hiya <sup>n</sup> x-kiyě

The root of this auxiliary appears be *-ě*, the preceding *y* being part of the prefix in all cases but the 3-form, in which it is problematic. Koontz (1986) accounts for it as the prevocalic form of the Proto-Siouan third person prefix *\*i-*. For comparison, the general forms extant of *-hedi* are as follows: 3 *-hedi*, 2 *-hayed*, 1 *-hũnkkedi* (*-hañkkedi*, *-hiñkkedi*), 3/1 *-yañkkedi*. Compare also the paradigms in Section 4.

The initial *h-* appearing before vowels has no obvious source. Koontz (1986) suggests that it is identical with the complementizer *hi* of Biloxi, accounting for the *i* which frequently follows it. A second possibility is that these forms are generally from a compound causitive *-hiyě*, in which *-hi* may be identical with the common Biloxi verbal suffix *-hi* or the Ioway-Oto causitive auxiliary *-hi* (Whitman 1947:248), or both. In fact, there are two Biloxi patterns when the verbal suffix *-hi* is present, illustrated by the forms of *tcdohiyě* 'to make smooth by rubbing' and *amihiyě* 'to warm any object'.

3	tcdohiyě'	amihí'yě
2	tcdó'hayě	amihí'hayě'
1	tcdó'hañkkě'	amí'hiñkkě

Compare the paradigms of *tcdoyě* 'to make smooth by planing' and *ixkimiyě* 'to warm oneself at a fire', without *-hi*, which are regular in terms of the forms in Table 8. If *tcdohiyě*

is taken as the older paradigm, *amihiyē* can perhaps be explained as an analogical reformation on the stem *amihi* 'to be warm' (2 *ayimi'hi*, 1 *nkka'mihi'*). Initial *h* would then be extended to the other auxiliaries by analogy.

A third possibility is that the initial *h* is a reflex of the same subject switch reference marker. This appears in the conjunction *h* or *ha<sup>n</sup>* 'and then (same subject)' in contrast to *k* or *ka<sup>n</sup>* 'and then (different subject)'. It appears as *hi-* before consonants, *h-* before vowels, in the second word of the suppletive paradigm of *ni hinedi* 'is/are walking' cited in Section 5. It appears as *χ* in *dexnē* 'to be going (be on the way)' (*de* 'to go' + *nē* 'to stand'). It appears as *h-* in the third person before *ande*, a continuative auxiliary. If this is the solution, the formation parallels one paradigm of the Alabama, Koasati, and Apalachee suffixed auxiliary *-ka*: 3 Zero, 2 *-tiska*, 1 *-li* from another paradigm, 3 pl. Zero, 2 pl. *-taska*, 1 pl. *-tilka*. Here *t-* is historically the same subject switch reference marker (Kimball 1987:143). If this is the source of the *h* found in the suffixed auxiliaries of other Siouan languages, this solution implies that switch reference was a feature of Proto-Siouan (John Koontz, personal observation).

These prefixes of the compound verb appear to be the most likely source for the variants of the simple verb prefixes which begin with *h*.

10. Compound verbs, general prefixes. The 3-form is zero throughout. The only variation is the presence or absence of initial *h* of the auxiliary. The number of compounds with and without *h* are as follows:

	With	Without
-hedi	8	12
-ho <sup>n</sup> ni	1	5
-ho <sup>n</sup> yē <sub>1</sub>	1	2
-ho <sup>n</sup> yē <sub>2</sub>	4	

The general 2-form is overwhelmingly *hay-*. The loss of *h* appears to be usually accompanied by assimilation of a to the vowel of the auxiliary, or its loss as the second vowel of a cluster. Without a settled morphophonemics, segmentation is often ambiguous. One view of allomorph occurrences appears in Table 9.

Table 9: 2-Form Auxiliaries

	-EDI	-HEDI	-HO <sup>n</sup> NI	-YE	-HO <sup>n</sup> YE(1)	-HO <sup>n</sup> YE(2)	TOTALS
-hay-	2	12	1	82	3	4	104
-ay-	1	4		1			6
-ya-		1		1			2
Other	1	2	4	1		1	9
TOTALS	4	19	5	85	3	5	121

The same remarks apply to a large extent to the 1-form, although the alternates -hũñkk-, -hañkk-, -hiñkk- appear to be well established as morphologically determined allomorphs. It is true that -hiñkk- generally follows a front vowel, but the other allomorphs do also. Likewise, while the one occurrence of -heñkk- in the corpus follows -wa in *weyě* 'coire' (index wa, p. 286), and -heñkk- follows -wě in its one discovered occurrence in the texts (2 *uxwěhě'yě*, 1 *uxwě'hěñkkě* 'to put it in (water)', p. 95, lines 237, 238), other allomorphs can follow these formatives. When the h of the prefix is lost, the vowel is sometimes retained, sometimes deleted, segmentation often being ambiguous. One view of allomorph occurrences appears in Table 10.

Table 10: 1-Form Auxiliaries

	-EDI	-HEDI	-HO <sup>n</sup> NI	-YE	-HO <sup>n</sup> YE(1)	-HO <sup>n</sup> YE(2)	TOTALS
-hũñkk-		5		48	3	1	57
-ũñkk-				3			3
-hañkk-	2	12	1	20		3	38
-añkk-	1	1	1				3
-hiñkk-		1		7			8
-iñkk-				3			3
-heñkk-				1			1
-ñkk-	1	1	2	2			6
TOTALS	4	20	4	84	3	4	119

The general marked object forms are sparsely documented. The /2-forms occur only with -yě in the corpus. The 3/2-form is -hiyě with 5 stems. The 1/2-form has the expected variants -hiñyě (one stem), -hinyě (two stems), and -hi<sup>n</sup>yě

(ten stems). The form *-ny-*, occurs once in *-ho<sup>n</sup>nyē*, possibly < *-ho<sup>n</sup>-hiny-ē*.

The /1-forms are limited to the following, all with *-yē*: 3/1 *-yañkkē* 2/1 *-yañkkē* occurs with four stems, 3/1 *-yañkkē* 2/1 *-hiyañkkē* occurs with three stems, and 3/1 *-yañkkē* occurs with an additional four stems.

11. Compound verbs in the dative. The dative is again formed with the allomorphs of the prefix *ki-*, which may be affixed to either the main verb or the auxiliary. If it is affixed to the main verb, the general prefix set is used with the auxiliary to express subject and object person. The combination

#### *ki-VERB-hañkk-AUX*

would, for example, express 'I ... for him' or 'I ... to his'. The four stems with such combinations have been counted in the analysis of the general set. If affixed to the auxiliary, the dative pronominals are used on the pattern

#### *VERB-hax-ki-AUX*

with the same senses. In either case, the plural object marker, *-daha*, pluralizes the indirect rather than the direct object. This marker can precede the auxiliary, at least if the auxiliary is *-yē*: *eya<sup>n</sup> ne'haxki'dahayē* 'I put a standing object or a number of small objects there for them'. The subject pluralizer *-tu* comes after *-yē* in such cases. The plural object forms of *puhe-kika<sup>n</sup>* are based on *puhe-ki-daha*, with the suffixed auxiliary deleted.

Eight compound verbs, all with *-yē* except *puhe-kika<sup>n</sup>*, show *ki-* or *kī-* prefixed to the auxiliary. In all eight, the 3-form is zero, the 2-form is *ha-* or *ya-*, apparently interchangeably, and the 1-form is *hax-* with all but *puhe-kika<sup>n</sup>*, where it is *ax-*.

Four verbs with *-yē* and *puhe-kika<sup>n</sup>* also show marked object forms. The *-yē* verbs show 3/2 *-yikiyē* (3 stems), 1/2 *-hiñkiyē* (4 stems), 1/2 *-hinkiyē* (once in one stem), 3/1 *-ya<sup>n</sup>xkiyē* 2/1 *-hiya<sup>n</sup>xkiyē* (3 stems). *Puhe-kika<sup>n</sup>* has 3/1 and 2/1 *-ya<sup>n</sup>xkika<sup>n</sup>*.

12. Conclusions and suggestions. It is clear from Tables 2 and 8 that the Biloxi pronominal prefixes are organized in a way that is unique among Siouan languages. Rather than the usual actor v. patient or transitive subject v. ergator dichotomy, the division here is threefold: first, subject with unmarked object (or no object); second, subject with marked object; and third, marked object. The order is also unique. Where both subject and object are marked, the subject prefix precedes the object prefix. In addition, the pronominal prefixes precede all the other common-Siouan prefixes, except *a-* (<\**wa-*) 'indefinite object', which may precede all prefixes but 1 *ũkk-*.

The 1-form *ũkk-* is doubtless cognate with the similar first person inclusive prefix of several other Siouan languages, being an innovation of dialectal Proto-Siouan, as suggested in part by its unique location in the verb word (Nicklas 1978). Biloxi is unique in eliminating the older first person exclusive form in favor of the inclusive form in both singular and plural. This prefix precedes indefinite object *a-*, demonstrative *kk-* and negative *kk-* (Section 1), while other prefixes, including dative 1-form *ax-* or *x-*, follow them. This suggests that the latter may reflect the more archaic exclusive Proto-Siouan \**m-* as Holmer (1947:6) suggested.

The fact that the prefix *ũkk-* in every instance before *d* but one (*dixi* 'to urinate') is vowelless *n-* also suggests an origin in dialectal PS \**m-* before \**r*, with early assimilation to point of articulation. The reconstruction of Biloxi *ada-* 'by heat or fire' as PS \**m̥la-* by Holmer (1947:5) does not appear to be a counterexample, as it appears to consist of *a-* + *da-*, with pronominal prefixes coming between. Derivation from *ũkk-* should result in at least a few forms like *ĩn-* or *ĩp-*, as before *m* and *n*, Table 4, but the prefix is here always vowelless.

The initial *y* of the /1-form *yañkk-* is to me mysterious. One could perhaps anticipate *añkk-*, regularly from \**wa-ñkk-*. Koontz (1986) suggests that 3/1-form *yañkk-* is from PS \**i-* 'third person' + *añkk-*, while the 2/1-form is from \**ya-añkk-*. If this is the case, the addition of optional *i-* (resulting in *hi-* in compound verbs, generalized to simple verbs) for second person subject can be understood as a way out of the resulting ambiguity. This must be tested against a set of generally applicable morphophonemic rules or historical sound changes.

The second person is more transparent. Preconsonantal *ya-* and prevocalic *ay-* both reflect PS \**ya-* 'second person actor', while preconsonantal *yi-* and prevocalic *iy-* both re-

flect PS \**yi-* 'second person ergator'. Rankin (1986:81) has noted that this alternation, CV before consonants, VC before vowels, is the same metathesis which occurs in several Muskogean languages. Reflecting Proto-Siouan usage, only *yi-/iy-* marks the second person object. Both prefixes can mark subject; here, *ay-* predominates before vowels, *i-* before consonants, aside from the few errant *ya-*, *yi-* and *hi-* paradigms. This *i-* before consonants may reflect *iy-* or *ay-* in parallel with the Muskogean second person actor prefix \**ič-*, which is metathesized in almost all positions. This leaves as a residue the dative 3/2-form *i-* in simple verbs, Table 2.

The general 1/2-form *inyi-* may consist of *iñkk-yi-*, reduced to *iñyi-* and sometimes written so, thence to *inyi-* and *i<sup>2</sup>yi-*, which appear in the prevocalic forms *iny-* and *i<sup>2</sup>y-*, Table 5. Compare the reduction of *iñkk-* to *n-* before *y* in Table 4. In these reduced forms, the nasal may actually be *ñ* or *n*, reflecting the original *kk*. *iñkk-* is the first person form used with *ta*, the alienable possession marker, and two possessed nouns. The dative 1/2-form *iñ-ki-* is derivable from *iñkk-i-ki-* by a rule deleting vowels between *k*'s, then simplifying the resulting cluster, for which there appears to be some support. Similar reductions of *iñkk-* before *K* appear in Table 3.

Until the morphophonemics of Biloxi are better understood, suggestions like these cannot be judged with any confidence. The material is so rich, that merely dipping into it here and there can easily result in false impressions.

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#### REFERENCES

- DORSEY, JAMES OWEN. 1893. The Biloxi Indians of Louisiana. AAAS-P 43:267-287.



- DORSEY, JAMES OWEN; AND JOHN R. SWANTON. 1912. A Dictionary of the Biloxi and Ofo Languages. BAE-B 47. Washington, D.C.: Government Printing Office.
- EINAUDI, PAULA FERRIS. 1976. A Grammar of Biloxi. Garland Studies in American Indian Linguistics. New York: Garland Publishing. Pp. xxi + 184.
- HAAS, MARY R. 1968. The Last Words of Biloxi. IJAL 34:77-84.
- HOLMER, NILS M. 1947. An Ofo Phonetic Law. IJAL 13:1-8.
- KIMBALL, GEOFFREY. 1987. A Grammatical Sketch of Apalachee. IJAL 53:136-74.
- KOONTZ, JOHN E. 1986. A Reanalysis of the Biloxi Causative. Typed MS.
- MATTHEWS, G. HUBERT. 1978. Review of A Grammar of Biloxi, by Paula Ferris Einaudi. Lg. 54:972-973.
- NICKLAS, T. DALE. 1978. "Siouan and Muskogean." In Ralph Cooley, et al., eds., Papers of the 1978 Mid-America Linguistics Conference. Norman: University of Oklahoma Departments of Anthropology and Communication. Pp. 44-58.
- RANKIN, ROBERT L. 1986. Review of A Grammar of Biloxi, by Paula Ferris Einaudi. IJAL 50:77-85.
- '1988. On Biloxi Aspiration. Typed MS.
- SIEBERT, FRANK T., JR. 1975. Resurrecting Virginia Algonquian from the Dead: The Reconstituted and Historical Phonology of Powhatan. In Studies in Southeastern Indian Languages, James M. Crawford, ed. Athens: The University of Georgia Press. Pp. 265-453.
- WHITMAN, WILLIAM. 1947. Descriptive Grammar of Ioway-Oto. IJAL 13:233-248.